

# Mainstreaming Biofiltration as a Stormwater Practice

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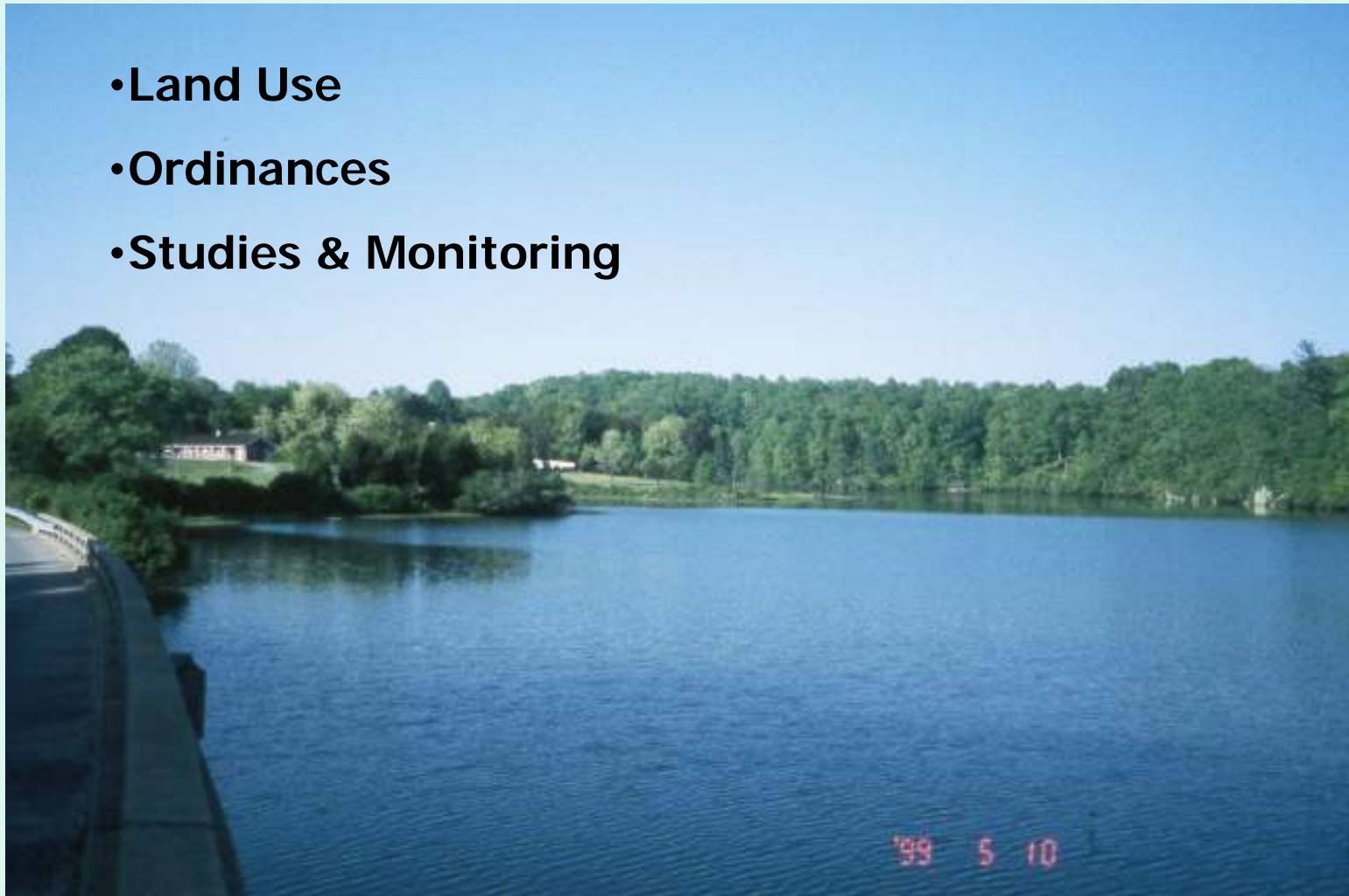


# Albemarle County, Virginia



# South Fork Rivanna Reservoir – History of Watershed Work

- Land Use
- Ordinances
- Studies & Monitoring



**Bio. . . Say What?**





1. **Municipal  
Demonstration  
Projects**
2. **Design  
Standards**
3. **Construction  
Inspection**





1. Municipal  
Demonstration  
Projects

23 2:02 PM

# **Why Demonstration BMPs?**

**New SWM Ordinance Under Development**

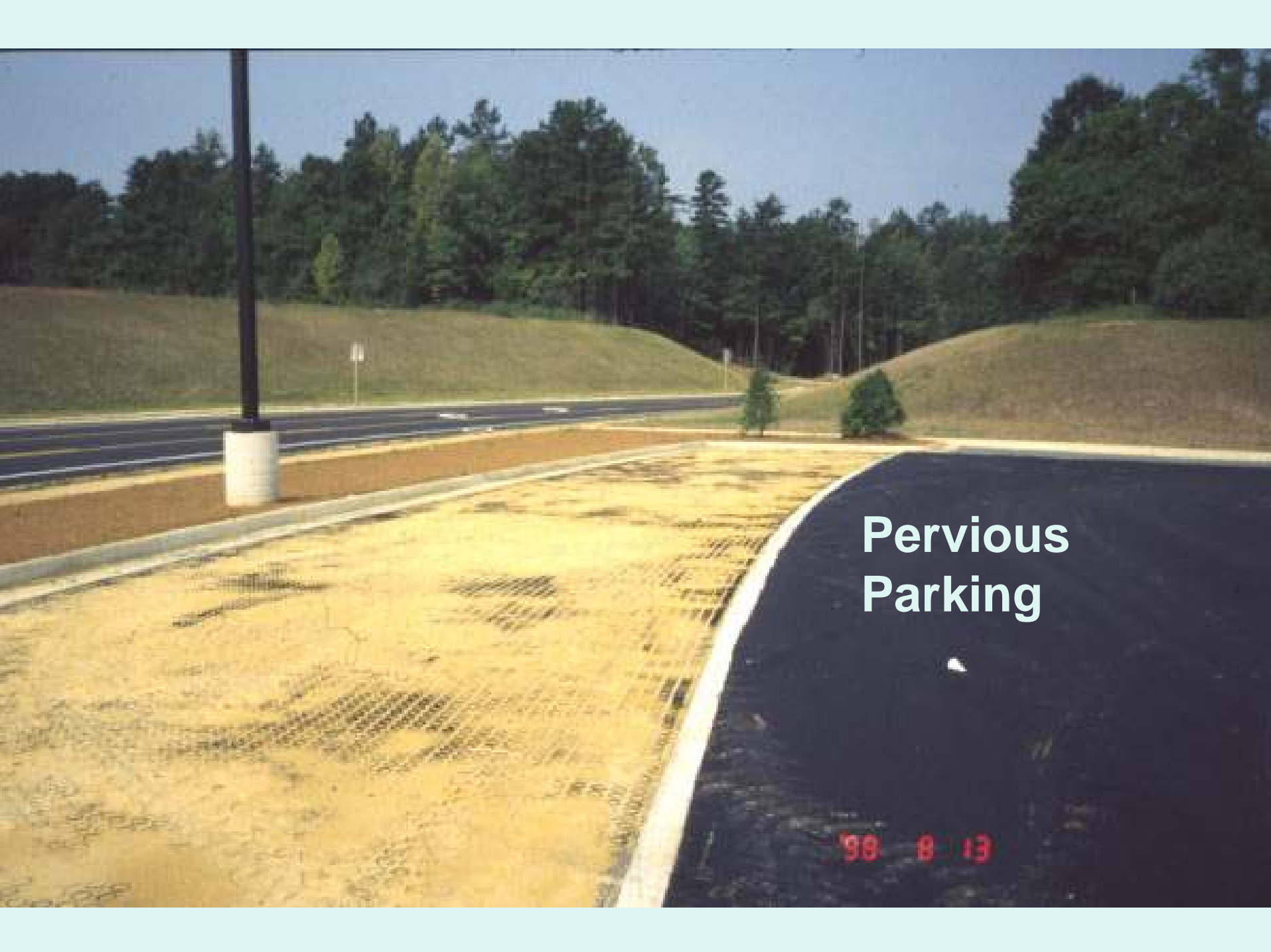


# Parking Lot Biofilter

23 2:02 PM

# Stormwater Wetland





## Pervious Parking

98 8 13



**Forebay**

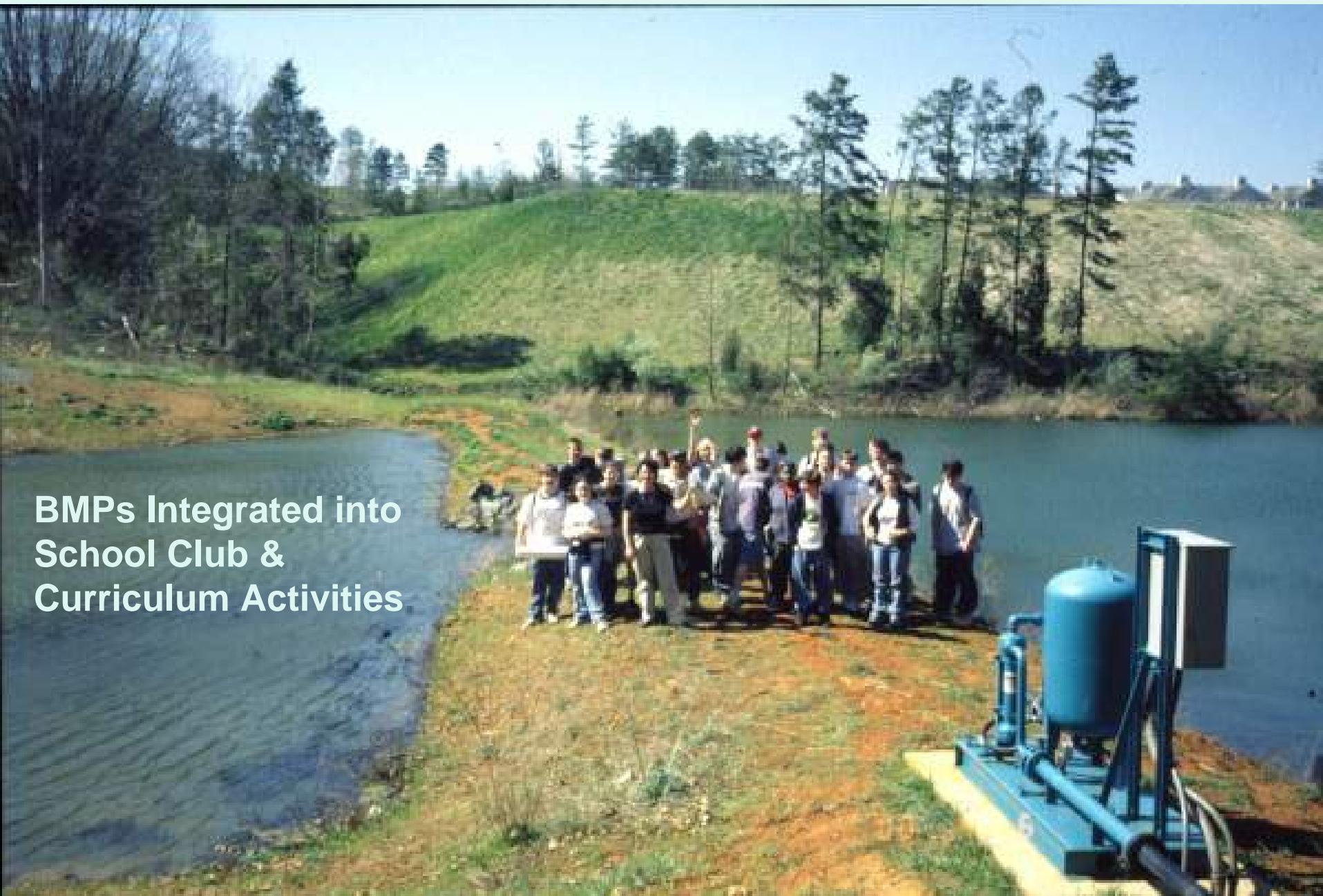
A photograph showing a forebay, a small pond of turbid, yellowish water in the foreground. The pond is situated on a reddish-brown, sandy or silty shore. In the background, a larger body of water, possibly a reservoir or lake, is visible, surrounded by dense green trees and vegetation. The sky is blue with scattered white clouds. The word "Forebay" is overlaid in bold black text on the pond. A red timestamp "98 5 16" is visible in the bottom right corner.

98 5 16



5 11:37 AM

**BMPs Integrated into  
School Club &  
Curriculum Activities**





## Two Approaches to Pervious Parking





# Durability VS Cost










## Bus Loop Biofilter

27 12:41 PM

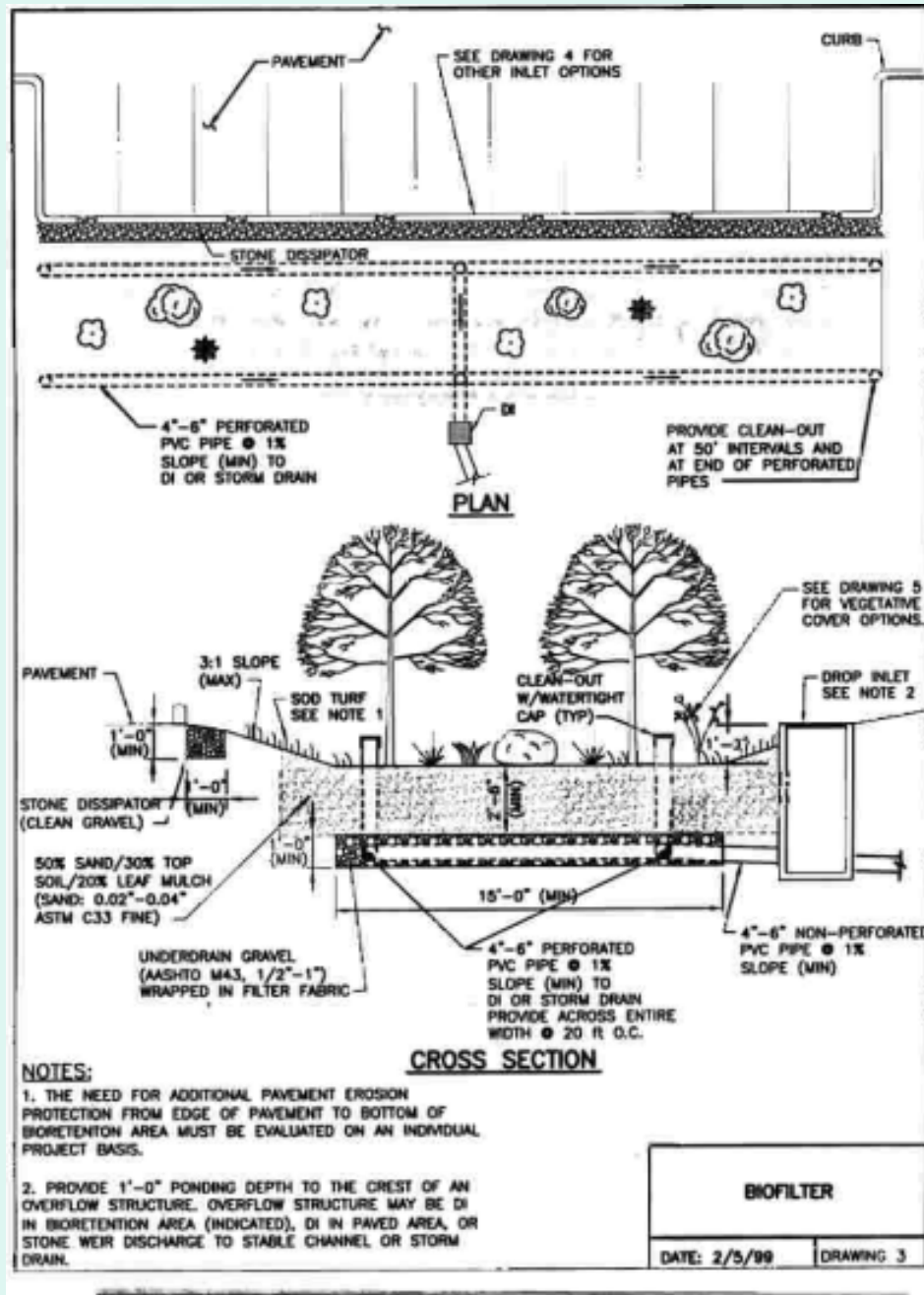


**Biofilter in a Box!**



## Influence on Private Sites

12 12:21 PM



## 2. Design Standards

- Landscape Setting
- Soil
- E&S Retrofits
- Credit for Non-Structural



Landscape Setting

21 2:30 PM





Low Maintenance

30 2:23 PM



Soil Mix

21 9:52 AM

# E&S Retrofits



# Sediment Basin Conversion





27 11:59am

**Silt Trap  
Converted  
to Biofilter**





**Diversion Dike Conversion**

12 12:02 PM

# Non-Structural Practices: Credits Towards Water Quality Requirements

- **Stream Buffer Enhancement & Protection**
- **LID**
- **Open Space Protection**





**Natural Flood Control**

**Streambank Protection**

**Stream Temperature Moderation**

**Food Source & Habitat**

**Refuge & Recreation**

**Water Quality**

**Money in the Bank**

### 3. Construction Inspection



# Premature Biofiltration



# Unlucky Timing





**Erosion at Curb Inlets**

**10 3:48 PM**



**Water Can't Get In**

**Water Gets Out**



## Clogged, Water Stands Too Long





**Oh Lord, Please Percolate!**



**Bad News Travels Fast**

# Conclusions

- **Demonstration Sites**
- **Design Standards**
- **Construction Inspection**



**Technology approach & Design approach**